

TIME CRITICAL DIAGNOSIS RESOURCES

EMERGENCY MEDICAL CARE FOR TRAUMA, STEMI AND STROKE PATIENTS

11/17/2009

This document reflects the recommended practices for emergency medical services for the assessment and transport of patients that have a time critical diagnosis of stroke and STEMI. The Stroke and STEMI Work Groups composed of experts from the EMS and medical communities compiled these guidelines and resources. This work was done between September 2008 and November 2009 through multiple discussions of current research and practice. This resource can be used by local and regional medical directors to guide their review or development of emergency medical services protocols for stroke and STEMI patients in their area. The Department of Health and Senior Services will use this resource to finalize transport protocols as required in state law. RSMo 190.200(3)

Table of Contents

STEMI	3
3.1 Criteria for STEMI Patient Classification	3
3.2 STEMI Field Triage Protocol	4
3.3 STEMI Guidelines for Emergency Medical Services	5
3.4 Inter-Facility Transfer Protocol for STEMI Patients, Not on Lytics	7
3.5 Inter-Facility Transfer Protocol for STEMI Patients, On Lytics	9
STROKE.....	11
4.1 Criteria for Stroke Patient Classification	11
4.2 Stroke Field Triage Guidelines	12
4.3 Stroke Guidelines for Emergency Medical Services	13
4.4 Inter-Facility Transfer Protocol for Stroke Patients, Not on Lytics	15
4.5 Inter-Facility Transfer Protocol for Stroke Patients Receiving Lytics	17



TIME CRITICAL DIAGNOSIS MANUAL

SUBJECT: 3.1 Criteria for STEMI Patient Classification	Chapter: 3.Hospital-STEMI
	Item: 3.1
REFERENCE: RSMo 190.200 (3)	Page 1 of 1

DISTRIBUTION: All Emergency Medical Services, Emergency Department and Designated STEMI Center Personnel

PURPOSE: To distinguish STEMI patients by the severity of symptoms in order to guide the transport to the appropriate designated STEMI center.

Class I

Elevated ST on ECG and exhibit two of the following additional signs for **cardiogenic shock**:

- Tachycardia, Heart Rate > 100
- Hypotension, Systolic Blood Pressure < 90
- Respiratory Distress, <10 or >29

Class II

- Elevated ST on ECG
- Signs and symptoms of acute coronary syndrome
- **No cardiogenic shock**

Acronyms: ECG-electrocardiogram
STEMI-ST-Elevation Myocardial Infarction

Stroke and STEMI meetings at which STEMI Work Group contributed input to this document: 4/7/09, 5/12/09, 8/6/09, 10/19/09



TIME CRITICAL DIAGNOSIS MANUAL

SUBJECT: 3.2 STEMI Field Triage Protocol	Chapter: 3. Hospital-STEMI
	Item: 3.2
REFERENCE: RSMo 190.200 (3)	Page 1 of 1

DISTRIBUTION: All Emergency Medical Services

PURPOSE: To guide triage and transport of STEMI patients to the closest appropriate designated STEMI center

Step 1

Assess life threatening conditions—serious airway or respiratory compromise that cannot be managed in the field

Yes

Transport to nearest emergency department capable of managing the above condition

No

Step 2

Assess Vital Signs and ECG—Obtain ECG if possible, and if not possible, rendezvous with ALS provider of transport to closest facility, whichever most expeditious. If ECG identifies ST elevation in two contiguous leads or LBBB and signs of cardiogenic shock present:

1. Hypotension, systolic blood pressure <90 or
2. Respiratory distress <10 or >29 or
3. Tachycardia, heart rate > 100

Yes

Consider air/ground transport; call the hospital with MI diagnosis

1. Transport to Level I STEMI center, unless there is a Level II 30 minutes closer.
2. If patient becomes unmanageable during transport, revisit Step 1.

No

Step 3

Assess other factors

- Elevated ST on ECG
- Signs and symptoms of acute coronary syndrome
- Obtain 12-lead, if available and transmit findings as appropriate

Yes

No

Transport according to protocol

Deliver patient to highest level of care available as rapidly as possible. (Reconsider language so have clear direction)

1. Take to Level I or Level 2 STEMI center if within PCI window [120 minutes from EMS first contact to reperfusion], if chest pain greater than 12 hours duration, or if thrombolytic ineligible.
2. If outside PCI window [greater than 120 minutes from EMS first contact to reperfusion], but within [30 minute] window for lytic therapy, transport to Level III or Level IV for lytic therapy and/or rapid transfer protocols to a Level I or Level II.

Patient can sign an 'Against Medical Advice' form if they insist on alternate location.

(Generic model form requested) Stroke and STEMI meetings at which STEMI Work Group contributed input to this document: 4/7/09, 5/12/09, 8/6/09, 10/19/09 and 11/13/09.



TIME CRITICAL DIAGNOSIS MANUAL

SUBJECT: 3.3 STEMI Guidelines for Emergency Medical Services	Chapter: 3. Hospital-STEMI
	Item: 3.3
REFERENCE: RSMo 190.200 (3)	Page 1 of 2

DISTRIBUTION: All Emergency Medical Services Personnel

PURPOSE: To outline the treatment guidelines regarding patients experiencing a suspected STEMI. STEMI should be treated as a time critical emergency.

In the first 30 minutes of patient contact, the following should be considered:

1. ABCs; administer oxygen; obtain vital signs, sample history/medication and allergy information; apply ECG and continuously monitor.
2. Obtain a 12-Lead ECG within 5 minutes of patient contact and transmit ECG findings as early as possible to the appropriate receiving center and/or medical control. If time permits, obtain serial 12-leads during transport. Obtain 15-lead ECG if available and time permits. (Preferably transmitted electronically if equipment supports.)
3. If STEMI is identified by EMS and confirmed by STEMI center or medical control
 - a) determine lytic eligibility and whether patient is within time window for PCI or lytics
 - b) determine destination
 - c) activate STEMI/cath lab team.
4. Determine if patient should be transported by ground or air. Patient can sign an 'Against Medical Advice' form if they insist on alternate location.
5. Begin transport urgently to the appropriate STEMI center following the field triage guidelines for STEMI patients.
6. Unless already administered in relation to the event, or contraindicated, administer 4 chewable baby aspirin (81 mg each).
7. Consider other anti-platelet agents based on STEMI receiving center protocol.
8. ~~Maintain oxygen saturation \geq or = 92%. (Holdover from stroke protocol and not believed relevant in this guideline for STEMI since covered in #1 above.~~
9. Establish IV, large bore if possible., ~~(preferably in left arm).~~ (Any reason left arm is better?)

10. If SBP > 110 mmHg and patient is presenting with cardiac type chest pain or discomfort, administer Nitro per regional protocol. **Don't administer nitro if contraindications, e.g., patient has a RV infarct or is taking erectile dysfunction drug. (Modified language to make clearer)**

11. If chest pain or discomfort persists and SBP >110 mmHg, if not contraindicated, consider administration of narcotics according to local/regional protocol if Nitro contraindicated or not effective.

12. If SBP < 90 mmHg and patient is not in acute pulmonary edema or having RV infarct, administer a fluid challenge of 250 to 500 cc with continued monitoring of oxygen saturation and lung sounds.

13. Contact Medical Control for further orders as soon as possible.

14. EMS staff should provide the receiving hospital with the following patient handoff information:

- ✓ patient assessment and condition upon arrival, including time of symptom onset, time on scene
- ✓ copies of 12-lead ECG;
- ✓ care provided (Run sheet);
- ✓ changes in condition following treatment; and
- ✓ Immediate family contact information as available.
- ✓ Times for dispatch and on scene
- ✓ Contraindication to lytic
- ✓ History of kidney function/ bleeding
- ✓ When call came into dispatch

15. Any other treatment may be decided by regional committees/ consensus. Discussion on these protocols should extend into further treatments (such as anti-platelets, anti-coagulation, beta blockers) beyond the protocol as outlined above.

Acronyms:

- A, B, C's- Airway, Breathing, Circulation
- BP-Blood Pressure
- ECG-Electrocardiogram
- EMS-Emergency Medical Services
- IV-Intravenous
- PCI-Percutaneous Coronary Intervention
- RV- Right Ventricle
- STEMI-ST-Elevation Myocardial Infarction

Stroke and STEMI meetings at which STEMI Work Group contributed input to this document: 2/10/09, 8/6/09 and conference call 10/26/09 and 11/13/09.



TIME CRITICAL DIAGNOSIS MANUAL

SUBJECT: 3.4 Inter-Facility Transfer Protocol for STEMI Patients, Not on Lytics	Chapter: 3. Hospital-STEMI
	Item: 3.4
REFERENCE: RSMo 190.200 (3)	Page 1 of 2

DISTRIBUTION: All Emergency Medical Services, Hospital Emergency Department and Designated STEMI Center Personnel

PURPOSE: To provide clear protocol for the transport of a STEMI patient from one facility to another. This usually occurs in an effort to move the STEMI patient to a higher level of care where necessary resources optimize recovery. This protocol is specific to a STEMI patient that has **not** received any lytics prior to or during transfer.

Patient Care Communication Hand-off Information.

The referring hospital shall provide EMS staff and the receiving hospital the following information (Do not delay transport if all of this information is not available at time of pickup since referring and receiving hospital have other ways to communicate information:

1. A phone number where a family member or care provider knowledgeable of the patient's current condition and health history can be contacted immediately (preferably a cell phone).
2. Documentation (patient assessment and condition upon arrival, including time of onset; medical records, available lab results, medication and dose) hand-off to EMS or by fax to receiving hospital
3. Ongoing transport orders specific to patient
4. Contact information for the ED physician at both the referring and receiving facilities
5. ECG sent with patient.
6. Specific location destination at receiving hospital (room, department).
7. If the following are present the referring hospital to discuss with receiving hospital prior to transport:
 - a. Heart failure
 - b. RV infarct
 - c. Arrhythmia
 - d. Extremes of BP

The referring hospital shall provide EMS staff the following required time documentation:

1. Time of symptom onset
2. Time and type of first medical contact (EMS or MD)
3. ECG(when completed)/Time of ECG STEMI diagnosis
4. Arrival time at referral hospital
5. Time EMS called for transport

During Transport EMS shall:

1. Contact receiving hospital for medical control if condition deteriorates (for example, develop signs/symptoms of heart failure; RV infarct; arrhythmia; extremes of BP)
2. Document ECG/rhythm strip and vital signs every 15 minutes.
3. Maintain O₂ during transport. **(ADDED)**
4. Maintain strict NPO.
5. Call receiving hospital prior to arrival (preferably 10 minutes prior to arrival).

Upon Arrival

EMS staff shall turn over the documented information sent from the referring hospital as well as the following to the receiving hospital:

1. Care provided by EMS
2. Changes in condition following management during transport. (MODIFIED LANGUAGE)

Acronyms:	AC-Antecubital
	ASA-Aspirin
	BP-Blood Pressure
	CT-Computerized Tomography
	ED-Emergency Department
	EMS-Emergency Medical Services
	EMT-Emergency Medical Technician
	INR-International Normalizing Ratio
	IV-Intravenous
	NPO-nothing by mouth
	NS-Normal Saline
	RV-
	STEMI-ST-Elevation Myocardial Infarction

Stroke and STEMI meetings at which Out-of-Hospital and Stroke Work Groups contributed input to this document:
2/10/09, 5/12/09, 8/6/09, 11/13/09.



TIME CRITICAL DIAGNOSIS MANUAL

SUBJECT: 3.5 Inter-Facility Transfer Protocol for STEMI Patients, On Lytics	Chapter: 3. Hospital-STEMI
	Item: 3.5
REFERENCE: RSMo 190.200 (3)	Page 1 of 2

DISTRIBUTION: All Emergency Medical Services, Hospital Emergency Department and Designated STEMI Center Personnel

PURPOSE: To provide clear protocol for the transport of a STEMI patient on lytics from one facility to another. This usually occurs in an effort to move the STEMI patient to a higher level of care where necessary resources optimize recovery. This protocol is specific to a STEMI patient that is receiving or has received any lytics prior to or at the time of transfer.

Patient Care Communication Hand-off Information

The referring hospital shall provide EMS staff and the receiving hospital the following information **(Do not delay transport if all of this information is not available at time of pickup since referring and receiving hospital have other ways to communicate information:**

1. A phone number where a family member or care provider knowledgeable of the patient's current condition and health history can be contacted immediately (preferably a cell phone).
2. Documentation (patient assessment and condition upon arrival, including time of onset; medical records, available lab results, medication and dose) hand-off to EMS or by fax to receiving hospital
3. Ongoing transport orders specific to the patient
4. Contact information for the ED physician at both the referring and receiving facilities
5. ECG sent with patient.
6. Information on lytics administered **(f EMS team is not familiar with lytics administration, inform referring hospital that may want to have a nurse or other appropriate health care provider travel with patient-- SUGGESTED 11/13/09)**
 - a. Dose
 - b. Specify antiplatelet and anticoagulant agents given (type and dose)
7. The referring hospital shall provide specific direction for management of the patient receiving lytics during transport.
8. Specific location destination at receiving hospital (room, department).
9. If the following are present the referring hospital to discuss with receiving hospital prior to transport:
 - a. Heart failure
 - b. RV infarct
 - c. Arrhythmia
 - d. Extremes of BP

The referring hospital shall provide EMS staff the following required time documentation:

Inter-facility Transfer Protocol for STEMI Patients, on Lytics

1. Time of symptom onset
2. Time and type of first medical contact (EMS or MD)
3. ECG(when completed)/Time of ECG STEMI diagnosis
4. Arrival time at referral hospital
5. Time EMS called for transport
6. Time lytics given

During Transport EMS shall:

1. Contact receiving hospital for medical control if condition deteriorates (for example, stroke symptoms; signs/symptoms of bleeding; extremes of BP).
2. Document ECG/rhythm strip and vital signs every 15 minutes.
3. Maintain strict NPO.
4. Maintain O₂ during transport.
5. Call receiving hospital prior to arrival (preferably 10 minutes prior to arrival).

Upon Arrival

EMS staff shall turn over the documented information sent from the referring hospital as well as the following to the receiving hospital:

1. Care provided by EMS
2. Status of lytics: total dose patient received and is to receive and/or time of completed infusion or remainder to be infused Changes in condition following treatment

Acronyms:

AC-Antecubital
ASA-Aspirin
CT-Computerized Tomography
EMS-Emergency Medical Services
EMT-Emergency Medical Technician
INR-International Normalized Ratio
IV-Intravenous
NPO-nothing by mouth
NS-Normal Saline

Stroke and STEMI meetings at which Out-of-Hospital and Stroke Work Groups contributed input to this document:
2/10/09, 5/12/09, 8/6/09, 11/2/09 and 11/13/09.



TIME CRITICAL DIAGNOSIS MANUAL

SUBJECT: 4.1 Criteria for Stroke Patient Classification	Chapter: 4 Hospital-Stroke
	Item: 4.1
REFERENCE: RSMo: 190.200 & 190.243	Page 1 of 1

DISTRIBUTION: All Emergency Medical Services, Emergency Department and Designated Stroke Center Personnel.

PURPOSE: To distinguish suspected stroke patients by the onset of symptoms in order to guide the transport to the appropriate designated stroke center.

Class I

Immediate life threat

Otherwise categorize patients based on the following **times last known well**

Class II

< 3 hours

Class III

3-6 hours

>6 hours

Based on input from the stroke and STEMI meetings at which Stroke Work Group contributed input into this document on 4/7/09, 5/12/09 and conference calls on 8/13/09, 9/2/09, 10/9/09

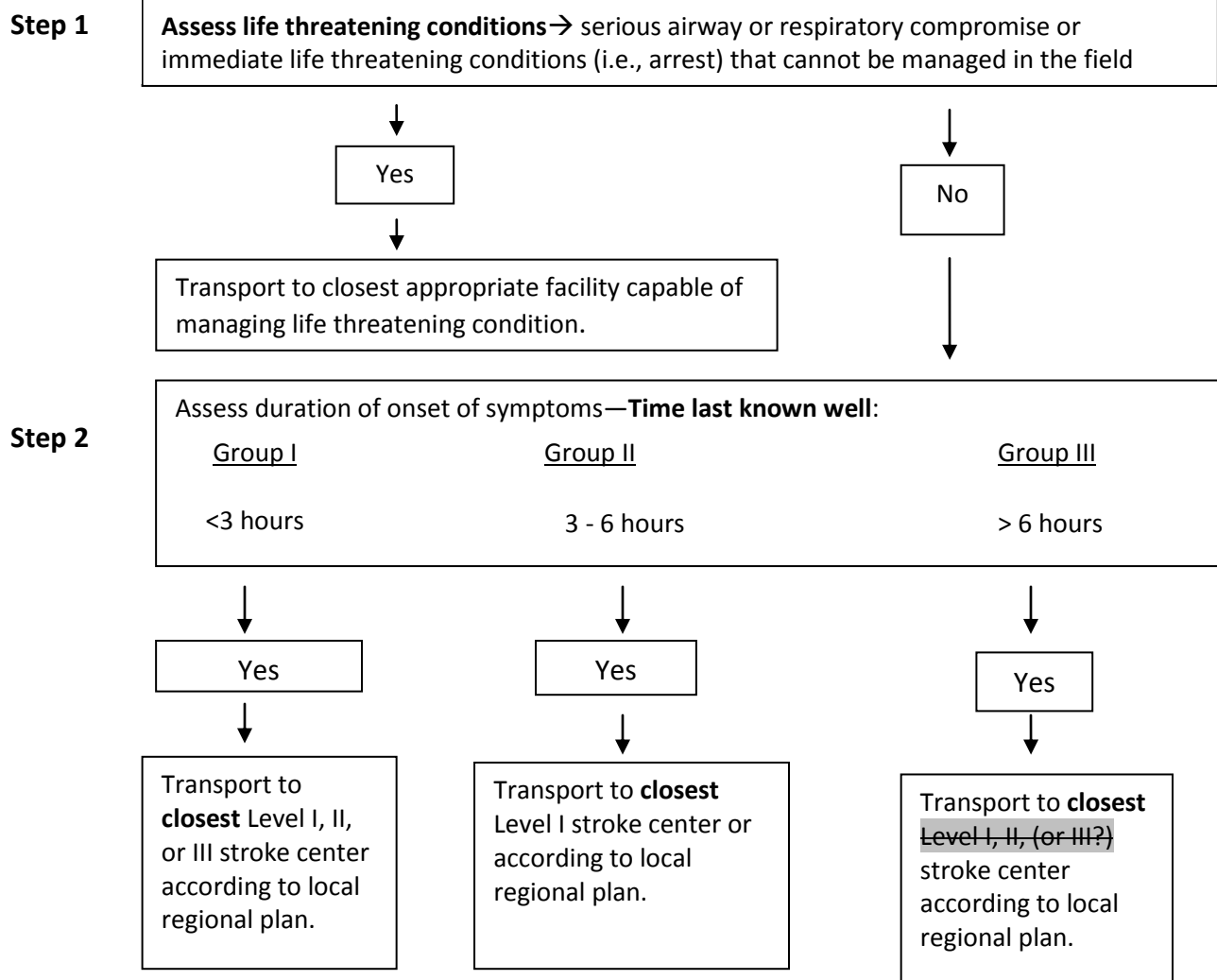


TIME CRITICAL DIAGNOSIS MANUAL

SUBJECT: 4.2 Stroke Field Triage Guidelines	Chapter: 4. Hospital-Stroke
	Item: 4.2
REFERENCE: RSMo: 190.200 & 190.243	Page 1 of 1

DISTRIBUTION: All Emergency Medical Services

PURPOSE: To guide the process for sorting suspected stroke patients by severity and time of onset to determine transport to designated stroke centers where appropriate resources will exist to ensure optimal outcome.



Stroke and STEMI meetings at which Stroke Work Group contributed input to this document: 4/7/09, 5/12/09, 8/13/09, 9/2/09.



TIME CRITICAL DIAGNOSIS MANUAL

SUBJECT: 4.3 Stroke Guidelines for Emergency Medical Services	Chapter: 4. Hospital-Stroke
	Item: 4.3
REFERENCE: RSMo 190.200 (3)	Page 1 of 2

DISTRIBUTION: All Emergency Medical Services Personnel

PURPOSE: To outline the treatment guidelines regarding patients experiencing a suspected stroke. Stroke should be treated as a time critical emergency.

PROTOCOL:

ON SCENE

1. ABCs. Maintain oxygen saturation above 92% by administering O₂ and increase as needed for decreased level of consciousness or other indicators. **(simplified and clarified language)**
2. Obtain blood glucose level. Treat hypoglycemia according to local regional plan.
3. Obtain vital signs including 12-lead ECG and a brief history (last time seen normal or without symptoms). Make sure to get a phone number where someone knowledgeable of the patient's current condition and health history can be contacted immediately (preferably a cell phone).
4. Perform a basic stroke exam using the Cincinnati Prehospital Stroke Scale or other regionally accepted validated stroke scale. The stroke exam used must be consistent across the region.
5. Do not delay transport. Transport urgently to a stroke center (on scene time of 10 minutes or less). Determine if patient should be transported by ground or air.

EN ROUTE

1. Contact receiving facility and notify of suspected stroke patient as soon as possible.
2. Establish an IV (preferably 18ga right AC).
3. Perform an expanded stroke exam if time and patient condition will allow (regional recommendation).
4. Do not treat hypertension without specific approval from the receiving facility.
5. Transport patient with head elevated no more than 20 degrees.

6. Patient handoff at the hospital should include:
 - ✓ patient assessment and condition upon arrival, including time of onset;
 - ✓ care provided;
 - ✓ changes in condition following treatment; and
 - ✓ specific immediate family contact information.

Acronyms:

- ABC- Airway, Breathing, Circulation
- AC- Antecubital
- ECG-Electrocardiogram
- EMS-Emergency Medical Services
- Ga-Gauge
- IV- Intravenous
- LPM- Liters per Minute
- Mg/dl-milligrams per deciliter
- TCD-Time Critical Diagnosis

Stroke and STEMI meetings at which Stroke and Out-of-Hospital Work Groups contributed input to this document: 12/2/08, 1/6/09, 2/10/09 and conference calls 9/2/09, 10/9/09 and 11/13/09.



TIME CRITICAL DIAGNOSIS MANUAL

SUBJECT: 4.4 Inter-Facility Transfer Protocol for Stroke Patients, Not on Lytics	Chapter: Hospital-Stroke
	Item: 4.4
REFERENCE: RSMo 190.200 (3)	Page 1 of 2

DISTRIBUTION: All Emergency Medical Services, Hospital Emergency Department and Designated STEMI Center Personnel

PURPOSE: To provide clear protocol for the transport of a Stroke patient from one facility to another. This usually occurs in an effort to move the Stroke patient to a higher level of care where necessary resources optimize recovery. This protocol is specific to a Stroke patient that is not receiving any lytics at the time of the transfer.

Patient Care Communication Hand-off Information

The referring hospital shall provide EMS staff and the receiving hospital the following information. **Do not delay transport if all of this information is not available at time of pickup since referring and receiving hospital have other ways to communicate information.**

1. A phone number where a family member or care provider knowledgeable of the patient's current condition and health history can be contacted immediately (preferably a cell phone).
2. Documentation (patient assessment and condition upon arrival, including time of onset; medical records, available lab results, medication and dose hand-off to EMS or by fax to receiving hospital)
3. Ongoing transport orders
4. Contact information for the ED physician at both the referring and receiving facilities
5. CT films or CD with patient **(CT films or CD should be sent with patient; however, do not delay when CT not available within 25 minutes of patient arrival at referring hospital).**
6. Report on neurologic status or NIH Stroke Scale (recommended) if available.
7. Specific location destination at receiving hospital (room, department).
8. Verify that blood pressure (BP) less than 180/105 prior to transport
 - a. If higher, referring hospital to discuss with receiving hospital prior to transport

The referring hospital shall provide EMS staff the following required time documentation:

1. Last known well/normal
2. Arrival time at referral hospital
3. Time EMS called for transport
4. CT (when completed and when read/reviewed)

During Transport EMS shall:

1. Contact receiving hospital for medical control if condition deteriorates or there is a significant change in blood pressure (BP) during transport
 - a. If blood pressure > 180/105
 - b. If patient develops hypotension
2. Document GCS, neuro checks with Cincinnati or other validated Stroke scale, and vital signs every 15 minutes.
3. Transport patient with head elevated no more than 20 degrees.
4. Not give any anti-platelets or anti-coagulants.
5. Maintain strict NPO.
6. Maintain O2 saturation above 92% during transport.
7. Call receiving hospital prior to arrival (preferably 10 minutes prior to arrival).

Upon Arrival

EMS staff shall turn over the documented information sent from the referring hospital as well as the following to the receiving hospital:

1. Care provided by EMS
2. Changes in condition following treatment

Acronyms:	AC- Antecubital
	ASA- Aspirin
	CT- Computed Tomography
	EMS-Emergency Medical Services
	EMT-Emergency Medical Technician
	INR- International Normalized Ratio
	IV- Intravenous
	NPO-nothing by mouth
	NS- Normal Saline

Stroke and STEMI meetings at which Out-of-Hospital and Stroke Work Groups contributed input to this document: 2/10/09, 5/12/09, 8/22/09, and conference calls 9/2/09, 10/9/09 and 11/13/09.



TIME CRITICAL DIAGNOSIS MANUAL

SUBJECT: 4.5 Inter-Facility Transfer Protocol for Stroke Patients Receiving Lytics	Chapter: Hospital-Stroke 4
	Item: 4.5
REFERENCE: RSMo 190.200 (3)	Page 1 of 3

DISTRIBUTION: All Emergency Medical Services, Hospital Emergency Department and Designated Stroke Center Personnel

PURPOSE: To provide clear protocol for the transport of a stroke patient from one facility to another. This usually occurs in an effort to move the stroke patient to a higher level of care where necessary resources optimize recovery. This protocol is specific to a stroke patient that is receiving lytics at the time of the transfer.

PROTOCOL:

Patient Care Communication Hand-off Information

The referring hospital shall provide EMS staff and the receiving hospital the following information **(Do not delay transport if all of this information is not available at time of pickup since referring and receiving hospital have other ways to communicate information:**

1. A phone number where someone knowledgeable of the patient's current condition and health history can be contacted immediately (preferably a cell phone).
2. Documentation (patient assessment and condition upon arrival, including time of onset; medical records, available lab results, medication and dose) hand-off to EMS or by fax to receiving hospital
3. Ongoing transport orders
4. Contact information for the clinician at both the referring and receiving facilities
5. CT films or CD (must always be sent with patient)
6. Report on neurologic status or NIH Stoke Scale (recommended) if available
7. Specific destination location (room, department)
8. Confirm 2 peripheral IVs (preferably 18ga AC) **when practicable and does not delay transport.**
9. The exact tPA dose that the patient is to receive during transport
 - a. The referring hospital is to dispose of any excess amount of tPA above what patient is to receive.
 - b. Standard FDA approved dosing is 0.9 mg/kg, with 10% given as bolus and the remainder dripped over one (1) hour. Maximum dose of 90 mg.
 - c. Referring hospital to discuss tPA administration with receiving hospital prior to administration.

- d. Or "If IV tPA dose administration will continue en route, verify estimated time of completion. Verify with the sending hospital that the excess tPA has been withdrawn from the tPA bottle and wasted, so that the tPA bottle will be empty when the full dose is finished infusing. For example, if the total dose is 70 mg, then there would be an extra 30 cc that has been withdrawn and wasted since a 100mg bottle of tPA contains 100 cc of fluid when reconstituted. In addition, the sending hospital should apply a label to the bottle with the number of cc's of fluid that should be in the bottle (so if there is a problem with the pump en route, the correct dosage is noted). (MA transport protocol)
10. Verify that blood pressure (BP) less than 180/105 prior to transport
 - a. If higher, referring hospital to discuss with receiving hospital prior to transport

The referring hospital shall provide EMS staff the following required time documentation:

1. Last known well/normal
2. Arrival time at referral hospital
3. Time EMS called for transport
4. CT (when completed and when read/reviewed)
5. Documentation and review with transport team: lytics bolus, infusion, and expected completion time (establish tPA protocol/tool kit).
6. Documentation of neuro checks and vital signs every 15 minutes.

During Transport EMS shall –

1. Discontinue lytics and contact receiving hospital for medical control if condition deteriorates or there is a significant change in blood pressure (BP) during transport
 - a. If blood pressure > 180/105
 - b. If patient develops hypotension
2. Document GCS, neuro checks with Cincinnati or other validated stroke scale, and vital signs every 15 minutes.
3. Transport patient with head flat, unless risk of aspiration is present.
4. Maintain strict NPO
5. Maintain O2 saturation above 92% during transport.
6. Do not give any anti-platelets or anti-coagulants.
7. Call receiving hospital prior to arrival (preferably 10 minutes prior to arrival).

Upon Arrival

EMS staff shall turn over the documented information sent from the referring hospital as well as the following to the receiving hospital:

1. Care provided by EMS
2. Status of lytics: total dose patient to receive and time of completed infusion or remainder to be infused
3. Changes in condition following treatment

Acronyms:	AC- Antecubital
	ASA- acetylsalicylic acid
	CD- Compact Disc
	CT- Computed Tomography
	EMS-Emergency Medical Services
	EMT-Emergency Medical Technician
	INR- International Normalized Ratio
	IV- Intravenous
	NIH-National Institutes of Health
	NPO-nothing by mouth
	NS- Normal Saline
	PIVs-Peripheral IVs
	tPA-recombinant tissue Plasminogen Activator

Stroke and STEMI meetings at which Out-of-Hospital and Stroke Work Groups contributed input to this document: 2/10/09, 4/7/09, 5/12/09 and 8/22/09 and conference calls 9/2/09, 10/9/09, and 11/13/09.